REMARKS

The specification has been reviewed, and clerical errors of the specification have been corrected.

On page 2 of the Action, claim 5 was objected to because of the informalities. On page 2 of the Action, claims 1-5 were rejected under 35 U.S.C. 102(e) as being anticipated by Verentchikov et al. On page 4 of the Action, claim 6 was rejected under 35 U.S.C. 103(a) as being unpatentable over Verentchikov et al.

In view of the objection and rejections, claims 1-2 and 4-6 have been amended to clarify the features of the invention.
Also, new claims 7 and 8 have been filed.

As recited in claim 1, a mass spectroscope of the invention comprises: an ion source for generating ions; a mass spectrometry portion for analyzing the ions; an ion retention portion arranged between the ion source and the mass spectrometry portion for storing, cooling and dissociating the ions; a gas supply connected to the ion retention portion for supplying a gas to the ion retention portion; flow adjusting means disposed between the ion retention portion and the gas supply for adjusting a flow of the gas supplied to the ion retention portion; and control means connected to the flow adjusting means for controlling the flow adjusting means to maintain an inner pressure of the ion retention portion according to operation modes at the ion retention portion

In the invention, the control means operates the flow adjusting means to introduce the gas into the ion retention portion at a retention operation in which the ions are stored in the ion retention portion, so that the inner pressure of the ion retention portion in the retention operation is higher than those in introducing and discharging operations in which the ions are introduced into the ion retention portion and the ions are discharged from the ion retention portion, respectively.

As explained in the specification (paragraph [0006], page 2), in a conventional mass spectroscope, a gas is introduced to the ion retention portion, so that the ions collide with gas molecules to control trajectories thereof and enhance efficiency of dissociation of the ions. When the ions are introduced into the ion retention

portion, if the gas pressure inside the ion retention portion is high, it is difficult to effectively introduce the ions into the ion retention portion. In this case, when a mass spectrum is obtained through scanning mass number, the mass spectrum does not have good peak separation.

In claim 1, the control means operates the flow adjusting means to introduce the gas into the ion retention portion at the retention operation, so that the inner pressure of the ion retention portion in the retention operation is higher than that in the introducing operation. In other words, the gas is introduced into the ion retention portion only after the ions are introduced into the ion retention portion.

Verentchikov et al. discloses a segmented-ion trap for improving performance of a mass spectrometer. As shown in FIG. 3A, in operation, a laser pulse produces a burst of ions, so that the ions are ejected from a sample plate. Using a pulsed gas inlet, an ion source 32 is synchronously filled with gas. Accordingly, the ions are rapidly cooled and trapped in a trap. At the time the pulse is ready for extraction, the gas is evacuated by a turbo pump (column 12, line 27-49).

In Verentchikov et al., the gas is introduced when the ions are introduced as in the case of the conventional mass spectroscope. In the invention, the gas is introduced into the ion retention portion only after the ions are introduced into the ion retention portion. Therefore, Verentchikov et al. does not disclose or suggest the features of the invention as recited in claim 1.

In claim 4, a method for analyzing ions of the invention comprises: generating the ions in an ion source; introducing the ions from the ion source into an ion retention portion; increasing a pressure in the ion retention portion by introducing a gas into the ion retention portion only while the ions are retained in the ion retention portion; and discharging the ions from the ion retention portion to a mass spectrometry portion for analyzing the ions after the pressure in the ion retention portion is decreased.

In the invention as recited in claim 4, the gas is introduced

into the ion retention portion only after the ions are introduced into the ion retention portion. Since the gas pressure inside the ion retention portion is low when the ions are introduced into the ion retention portion, it is possible to effectively introduce the ions into the ion retention portion.

In Verentchikov et al., the gas is introduced when the ions are introduced as in the case of the conventional mass spectroscope, not after the ions are introduced. Therefore, Verentchikov et al. does not disclose or suggest the features of the invention recited in claim 4.

As explained above, the cited reference does not disclose or suggest the features of the invention.

Reconsideration and allowance are earnestly solicited.

Respectfully submitted,

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